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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/632,543	08/04/2000	Rajendra K. Talluri	TI-28919	1760
23494	7590	07/28/2005	EXAMINER	
TEXAS INSTRUMENTS INCORPORATED P O BOX 655474, M/S 3999 DALLAS, TX 75265			NGUYEN, LUONG TRUNG	
			ART UNIT	PAPER NUMBER
			2612	

DATE MAILED: 07/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/632,543

Applicant(s)

TALLURI ET AL.

Examiner

LUONG T. NGUYEN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. In view of the Appeal Brief filed on 5/02/05, PROSECUTION IS HEREBY REOPENED. The Office action set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

- (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,
- (2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

2. Upon thorough examination of the specification and the amended claims, as amended on 07/07/04, and the cited prior arts, and the final rejection mailed on 12/01/2004, the Examiner finds that the Safai reference (U. S. Patent No. 6,642,956) used in rejection of claim 4 is not necessary, instead, claim 4 will be rejected only by Fukuoka reference (U. S. Patent No. Re. 36,338); therefore, another final office action as discussed below replaces the final rejection mailed on 12/01/2004.

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3. Applicant's arguments filed with respect to claims 1, 3, 5-6 filed on 05/02/05 have been fully considered but they are not persuasive.

In re page 3, Applicants argue that the cited multipliers and adders of Mizutani do not form a multiply and accumulate units because there is no accumulation. The accumulate function is an addition to the current contents to yield update contents; see application Fig.19. In contrast, the adders of Mizutani have two inputs with neither being a feedback of the current contents; indeed, the added of Mizutani do not retain outputs as required for accumulators.

In response, regarding claim 1, it is noted that the features upon which applicant relies (i.e., *The accumulate function is an addition to the current contents to yield update contents; see application Fig.19; the adders have a feedback of the current contents*) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Instead, Applicants recited claim 1 with the limitation "a third processor coupled to said second processor, said third processor including at least four parallel multiply and accumulate units." The Examiner considers that Mizutani et al. does disclose at least four parallel multiply and accumulate units, which read on six parallel multipliers 85-87, 95-97 and adders 88-90, 98-100 (Figure 7, Column 9, Lines 49-53). It should be noted that adders 88-90, 98-100 have function of accumulation.

In re page 3, Applicants argue that claim 3 requires the compression unit be able to act on the acquired images, in contrast, Mizutani Fig.2 shows JPEG unit 29 applies after input processing 21 and thus not acting on the acquired image. Application Fig.1b shows burst mode

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compression/decompression unit 108 directly connected to the CCD controller to get the acquired image.

In response, regarding claim 3, it is noted that the features upon which applicant relies (i.e., *Application Fig. 1b shows burst mode compression/decompression unit 108 directly connected to the CCD controller to get the acquired image*) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Instead, Applicants only recited the limitation “to compress acquired images for storage in a memory”. Therefore, the limitation “acquired images” can be read as images before compressing by JPEG encoder/decoder 29 (figure 2, column 5, lines 45-52).

Claim Objections

4. Claims 5-6 are objected to because of the following informalities:

Claim 5 (line 2), “(a) an audio” should be changed to --(d) an audio--.

Claim 6 (line 2), “(a) camera peripherals including IfSA” should be changed to --(d) camera peripherals including IrDA--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claim 4 is rejected under 35 U.S.C. 102(e) as being anticipated by Fukuoka (U. S. Patent No. Re. 36,338).

Regarding claim 4, Fukuoka discloses an integrated circuit for a digital still camera, comprising a first programmable processor programmed (CPU 11, Figure 1, Column 4, Lines 17-39) to run control functions, said first processor coupled to a user interface (display section 19 and operating section 20, Figure 1, Column 4, Lines 57-62), a controller for memory (CPU 11, Figure 1, Column 4, Lines 36-39), and a controller for image acquisition (CPU 11, Figure 1, Column 4, Lines 35-39); and a second programmable processor (compress and extending image data 7, Figure 1, Column 4, Lines 30-39) programmed to run image processing and compression functions, said second processor coupled to said first processor (Figure 1 shows that the compress and extending image data 7 is coupled to CPU 11); a digital image processing unit (digital signal processing 6, Figure 1) separate from said first and second processors, said image processing unit arranged for real-time image sequence (video) processing, said image processing unit controlled in real-time by said first processor.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1, 3, 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Safai (U. S. Patent No. 6,642,956) in view of Mizutani et al. (U. S. Patent No. 6,674,464).

Regarding claim 1, Safai discloses an integrated circuit for a digital still camera, comprising a first programmable processor programmed (microprocessor 312, Figure 3, Column 7, Lines 7-28) to run control functions, said first processor coupled to a user interface (display 318 and touch screen 319, Figure 1), a controller for memory (display controller 317, Figure 1), and a controller for image acquisition (image capture unit 302); and a second programmable processor (digital image processor 310, Figure 3, Column 5, Lines 45-58) programmed to run image processing (performing some processing of digital images, Column 5, Lines 50-54) and compression functions (digital compressor 426, Figure 4, Column 9, Lines 43-55), said second processor coupled to said first processor (Figure 3 shows that digital image processor 310 coupled to microprocessor 312).

Safai fails to specifically disclose a third processor coupled to said second processor, said third processor including at least four parallel multiply and accumulate units. However, Mizutani et al. discloses a digital still camera 1, which includes resolution conversion circuit 28 (third processor) coupled to memory controller 22 (second processor, Figures 2, 6, Column 5, lines 33-53, Column 6, Lines 18-40), the resolution conversion circuit 28 includes six parallel multipliers 85-87, 95-97 and adders 88-90, 98-100 (Figure 7, Column 9, Lines 49-53). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device in Safai by the teaching of Mizutani et al. in order to perform

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resolution conversion so that the image data will be in meeting with VGA format in the NTSC system and PAL system (Column 16, Lines 21-28). This makes the image data read out from the high resolution can be displayed on lower resolution display.

Regarding claim 3, Safai discloses an integrated circuit for a digital still camera, comprising a first programmable processor programmed (microprocessor 312, Figure 3, Column 7, Lines 7-28) to run control functions, said first processor coupled to a user interface (display 318 and touch screen 319, Figure 1), a controller for memory (display controller 317, Figure 1), and a controller for image acquisition (image capture unit 302); and a second programmable processor (digital image processor 310, Figure 3, Column 5, Lines 45-58) programmed to run image processing (performing some processing of digital images, Column 5, Lines 50-54) and compression functions (digital compressor 426, Figure 4, Column 9, Lines 43-55), said second processor coupled to said first processor (Figure 3 shows that digital image processor 310 coupled to microprocessor 312).

Safai fails to specifically disclose an image compression unit separate from said second processor, said compression unit arranged to compress acquired images for storage in a memory and to decompress said compressed acquired images in said memory for restorage in said memory. However, Mizutani et al. discloses a digital still camera 1 includes compression/expansion circuit 29, which is separated from memory controller 22, compresses image data to store in image memory 32, and expands the compressed image data (Figures 2-3, Column 6, Lines 25-30). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device in Safai by the teaching of Mizutani

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et al. in order to compress image data before storing image data into a memory. This increases the amount of image data to be stored in the memory.

Regarding claim 6, Safai discloses camera peripherals including USB, NTSC/PAL encoder, and compact flash/smart media interface (USB port, TV signal output port, PCMCIA port, Figure 3, Column 7, Lines 13-18). Safai fails to specifically disclose camera peripherals including IfSA, NTSC/PAL encoder. However, Mizutani et al. discloses a digital still camera 1 includes an NTSC/PAL encoder 23, and IrDA interface 45 (Figure 2, Column 5, Lines 39-40, Column 6, Lines 53-55). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device in Safai by the teaching of Mizutani et al. in order to display image data on a TV monitor.

9. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Safai (U. S. Patent No. 6,642,956) in view of Mizutani et al. (U. S. Patent No. 6,674,464) further in view of Fukuoka (U. S. Patent No. Re. 36,338).

Regarding claim 5, Safai and Mizutani et al. fail to specifically disclose an audio input coupled to said second processor, said second processor programmed to decode audio and said first processor programmed to output said decoded audio. However, Fukuoka discloses an electric still camera includes microphone 12 for inputting sound, microphone 12 is coupled to the sound data compressing-extending circuit 15 (second processor). The sound data are extended by the sound data compressing-extending circuit 15, and outputted as an audio signal through D/A 22 and amplifier 23 by the control of central processing 11 (first processor), Figure 1,

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Column 5, Lines 4-9). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device in Safai and Mizutani et al. by the teaching of Fukuoka in order to record sound data together with image data.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

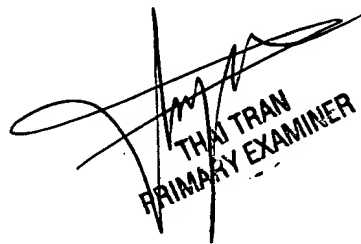
11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **LUONG T NGUYEN** whose telephone number is (571) 272-7315. The examiner can normally be reached on 7:30AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, ^{Thai Tran}~~Wendy Garber~~ can be reached on (571) 272-⁷³⁸²~~7308~~. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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07/21/2005


THAI TRAN
PRIMARY EXAMINER